



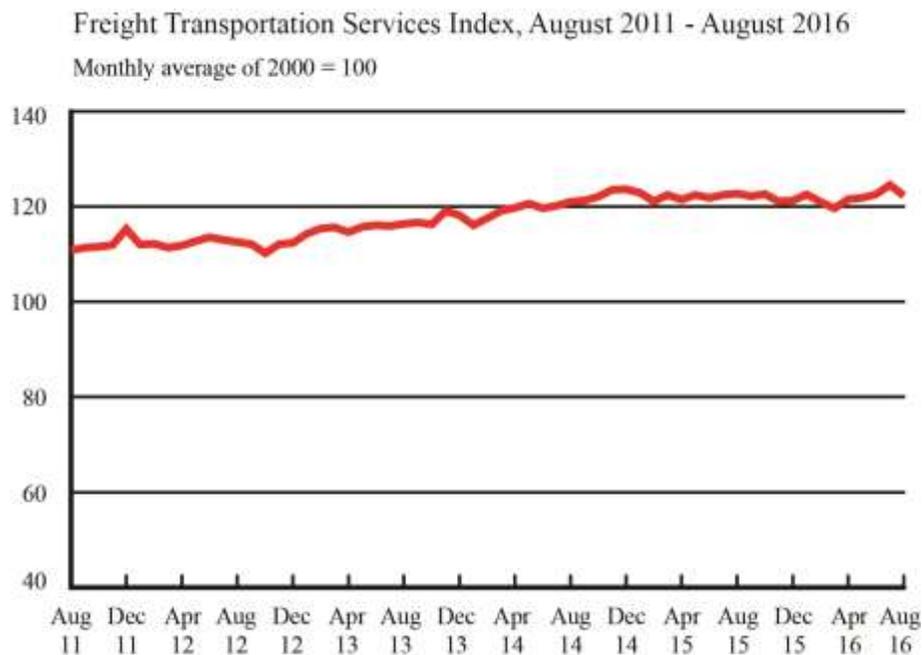
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## BTS Data

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### August 2016 Freight Transportation Services Index (TSI)

The Freight Transportation Services Index (TSI), which is based on the amount of freight carried by the for-hire transportation industry, fell 1.8 percent in August from July, falling after rising for four consecutive months, according to the U.S. Department of Transportation's Bureau of Transportation Statistics' (BTS). The August 2016 index level (122.3) was 29.0 percent above the April 2009 low during the most recent recession (Tables 1, 2, and 2A).



The level of freight shipments in August measured by the Freight TSI (122.3) was 1.8 percent below the all-time high level of 124.5 in July 2016 (Table 2A). BTS' TSI records begin in 2000. See historical [TSI data](#).

The July index was revised to 124.5 from 124.6 in last month's release but still remains an all-time high. Monthly numbers for January through May were revised down slightly.

The Freight TSI measures the month-to-month changes in freight shipments by mode of transportation in tons and ton-miles, which are combined into one index. The index measures the output of the for-hire freight transportation industry and consists of data from for-hire trucking, rail, inland waterways, pipelines and air freight.

**Analysis:** The August Freight TSI decrease of 1.8 percent from July was due to declines in pipelines, rail carloads, and particularly trucking, while all other modes grew or were stable (data on individual modes are seasonally adjusted by BTS). The August decrease was driven by declines in the mining (including oil and gas well drilling and servicing) and manufacturing sectors of the economy. The [Federal Reserve Board Industrial Production index](#) went down by 0.4 percent in August. Housing starts were 0.4 percent below the July level, Personal Income was 0.2 percent above the July level, and employment grew by 151,000 jobs. Both Personal Income and employment grew more slowly than in previous months.

**Trend:** The 1.8 percent Freight TSI decline in August from July was the largest monthly decrease since January 2014. The decrease, following an increase of 1.6 percent in July, virtually brought the index back to the June level. In the two-month period, the index was down 0.2 percent. Since the beginning of 2015, the index has been extremely stable as it fluctuated above and below 122. It has deviated only twice by more than 1 percent from the 122 level twice – in March 2016 when it fell 2.0 percent below 122 to a two-year low and in July 2016 when it rose 2.0 percent above 122 to reach an all-time high. The index has risen 29 percent since the low of 94.8 in April 2009. For additional historical data, go to [TSI data](#).

**Index highs and lows:** Freight shipments in August 2016 (122.3) were 29.0 percent higher than the recent low in April 2009 during the recession (94.8). The August 2016 level was 1.8 percent below the historic peak reached in July 2016 (124.5) (Table 1A).

**Year to date:** Freight shipments measured by the index were up 0.8 percent in August compared to the end of 2015 (Table 3).

**Long-term trend:** Freight shipments are up 10.4 percent in the five years from August 2011 and are up 11.7 percent in the 10 years from August 2006 (Table 5).

**Same month of previous year:** August 2016 freight shipments were down 0.3 percent from August 2015 (Tables 4, 5).

The TSI has three seasonally adjusted indexes that measure changes from the monthly average of the base year of 2000. The three indexes are freight shipments, passenger travel and a combined measure that merges the freight and passenger indexes. See [Seasonally-Adjusted Transportation Data](#) for numbers for individual modes. TSI includes data from 2000 to the present. Release of the September index is scheduled for Nov. 9.

**Passenger Index:** The TSI for passengers rose 0.1 percent in August from its July level (Table 6). The Passenger TSI August 2016 level of 125.0 was 2.1 percent above the August 2015 level (Table 7). The index is up 11.7 percent in five years and up 14.5 percent in 10 years (Table 5). The passenger TSI measures the month-to-month changes in travel that involves the services of the for-hire passenger transportation sector. The seasonally adjusted index consists of data from air, local transit and intercity rail.

**Combined Index:** The combined freight and passenger TSI fell 1.2 percent in August from its July level (Table 8). The combined TSI August 2016 level of 123.2 was 0.4 percent above the August 2015 level (Table 9). The combined index is up 10.8 percent in five years and up 12.4 percent in 10 years (Table 5). The combined TSI merges the freight and passenger indexes into a single index.

**Revisions:** Monthly data has changed from previous releases due to the use of concurrent seasonal analysis, which results in seasonal analysis factors changing as each month's data are added.

BTS research has shown a clear relationship between economic cycles and the Freight and Passenger Transportation Services Indexes. See a [study of this relationship](#) using smoothed and detrended TSI data. Researchers who wish to compare TSI over time with other economic indicators, can use the [FRED database](#), which includes freight, passenger and combined TSI, and which makes it possible to easily graph TSI alongside the other series in that database. See [TSI data on FRED](#).

For a webinar on the TSI, see [Past Webinars](#). For a video explanation of the TSI, see [Overview of the Transportation Services Index](#). A BTS report explaining the TSI, [Transportation Services Index and the Economy](#), is available for download.

**Table 1: Freight, Passenger and Combined Transportation Services Indexes since February 2016**  
**Percent Change from Previous Month**  
**(Seasonally Adjusted, Monthly Average of 2000 = 100)**

	Freight		Passenger		Combined	
	Index	Pct. Change	Index	Pct. Change	Index	Pct. Change
February	121.0	-1.2	123.8	0.4	122.0	-0.7
March	119.6	-1.2	122.3	-1.2	120.5	-1.2
April	121.5	1.6	124.0	1.4	122.4	1.6
May	121.8	0.2	124.3	0.2	122.6	0.2
June	122.5	0.6	125.6	1.0	123.5	0.7
July	124.5	1.6	124.9	-0.6	124.7	1.0
<b>August</b>	122.3	-1.8	125.0	0.1	123.2	-1.2

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

**Table 2: Freight Transportation Services Index Monthly Changes, 2013-2016**  
**Percent change from previous month**

	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
	<b>% Change</b>	<b>% Change</b>	<b>% Change</b>	<b>% Change</b>
January	1.7	-1.8	-0.6	1.0
February	1.0	1.2	-1.5	-1.2
March	0.2	1.4	1.1	-1.2
April	-0.9	0.5	-0.8	1.6
May	1.0	0.8	0.8	0.2
June	0.3	-0.8	-0.5	0.6
July	-0.2	0.5	0.5	1.6
August	0.4	0.7	0.2	-1.8
September	0.2	0.2	-0.4	
October	-0.3	0.7	0.3	
November	2.4	1.1	-1.2	
December	-0.8	0.1	0.2	

SOURCE: Bureau of Transportation Statistics

**Table 2A: Freight Transportation Services Index by Month, 2013-2016**

	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
January	114.3	116.1	122.9	122.5
February	115.4	117.5	121.1	121.0
March	115.6	119.1	122.4	119.6
April	114.6	119.7	121.4	121.5
May	115.7	120.6	122.4	121.8
June	116.1	119.6	121.8	122.5
July	115.9	120.2	122.4	124.5
August	116.4	121.0	122.7	122.3
September	116.6	121.3	122.2	
October	116.3	122.1	122.6	
November	119.1	123.5	121.1	
December	118.2	123.6	121.3	

SOURCE: Bureau of Transportation Statistics

**Table 3: Freight, Passenger and Combined Transportation Services Indexes Year-to-Date Change, 2007-2016**  
**Percent change to August from December of the previous year**

<b>Year</b>	<b>Freight</b>	<b>Passenger</b>	<b>Combined</b>
2007	-1.3	3.4	0.1
2008	-1.5	-0.4	-1.2
2009	-1.2	-0.6	-1.1
2010	5.1	1.6	4.0
2011	1.8	-1.1	0.9
2012	-2.4	0.0	-1.7
2013	3.6	1.5	2.9
2014	2.4	2.2	2.3
2015	-0.7	1.3	-0.1
<b>2016</b>	<b>0.8</b>	<b>0.6</b>	<b>0.7</b>

SOURCE: Bureau of Transportation Statistics

**Table 4: Freight Transportation Services Index from Year-to-Year Percent Change in the August Freight TSI (Monthly average of 2000 = 100)**

	<b>August Freight TSI</b>	<b>Percent change from same month previous year</b>
2007	109.3	-0.2
2008	109.0	-0.3
2009	99.1	-9.1
2010	106.7	7.7
2011	110.8	3.8
2012	112.5	1.5
2013	116.4	3.5
2014	121.0	4.0
2015	122.7	1.4
<b>2016</b>	<b>122.3</b>	<b>-0.3</b>

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

**Table 5: Transportation Services Indexes from Previous Years  
Percent Change to 2016 (August to August)**

Since August ...	Duration in years	Freight TSI Percent change to August 2016	Passenger TSI Percent change to August 2016	Combined TSI Percent change to August 2016
2015	1	-0.3	2.1	0.4
2014	2	1.1	3.8	1.9
2013	3	5.1	6.3	5.5
2012	4	8.7	8.0	8.5
2011	5	10.4	11.7	10.8
2010	6	14.6	11.4	13.7
2009	7	23.4	13.9	20.4
2008	8	12.2	7.9	10.8
2007	9	11.9	6.4	10.1
2006	10	11.7	14.5	12.4

SOURCE: Bureau of Transportation Statistics

**Table 6: Passenger Transportation Services Index Monthly Changes, 2013-2016  
Percent change from previous month**

	2013 % Change	2014 % Change	2015 % Change	2016 % Change
January	1.0	0.0	-0.7	-0.7
February	-0.3	-0.3	-1.3	0.4
March	-0.5	2.1	2.4	-1.2
April	0.7	0.0	0.2	1.4
May	0.0	0.5	0.2	0.2
June	0.6	-0.7	0.4	1.0
July	-0.8	0.4	3.3	-0.6
August	0.7	0.2	-3.1	0.1
September	-0.2	-0.2	0.4	
October	0.1	0.2	1.1	
November	0.9	-0.7	-1.0	
December	-0.6	1.0	0.9	

SOURCE: Bureau of Transportation Statistics

**Table 7: Passenger Transportation Services Index from Year-to-Year  
Percent change in the August Passenger TSI  
(Monthly average of 2000 = 100)**

	<b>August Passenger TSI</b>	<b>Percent change from same month previous year</b>
2007	117.5	7.6
2008	115.8	-1.4
2009	109.7	-5.3
2010	112.2	2.3
2011	111.9	-0.3
2012	115.7	3.4
2013	117.6	1.6
2014	120.4	2.4
2015	122.4	1.7
<b>2016</b>	<b>125.0</b>	<b>2.1</b>

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

**Table 8: Combined Transportation Services Index Monthly Changes, 2013-2016  
Percent change from previous month**

	<b>2013 % Change</b>	<b>2014 % Change</b>	<b>2015 % Change</b>	<b>2016 % Change</b>
January	1.5	-1.3	-0.6	0.4
February	0.6	0.8	-1.5	-0.7
March	-0.1	1.5	1.6	-1.2
April	-0.3	0.4	-0.6	1.6
May	0.7	0.6	0.7	0.2
June	0.4	-0.7	-0.2	0.7
July	-0.4	0.5	1.4	1.0
August	0.5	0.5	-0.8	-1.2
September	0.1	0.1	-0.2	
October	-0.2	0.6	0.6	
November	2.0	0.6	-1.1	
December	-0.7	0.3	0.4	

SOURCE: Bureau of Transportation Statistics

**Table 9: Combined Transportation Services Index from Year-to-Year  
 Percent change in the August Combined TSI  
 (Monthly average of 2000 = 100)**

	August Combined TSI	Percent change from same month previous year
2007	111.9	2.1
2008	111.2	-0.6
2009	102.3	-8.0
2010	108.4	6.0
2011	111.2	2.6
2012	113.5	2.1
2013	116.8	2.9
2014	120.9	3.5
2015	122.7	1.5
<b>2016</b>	<b>123.2</b>	<b>0.4</b>

SOURCE: Bureau of Transportation Statistics

NOTE: Percent changes based on numbers prior to rounding.

## **Brief Explanation of the TSI**

The Transportation Services Index (TSI) is a measure of the month-to-month changes in the output of services provided by the for-hire transportation industries. The freight index measure changes in freight shipments while the passenger index measures changes in passenger travel.

The TSI tells us how the output of transportation services has increased or decreased from month to month. The index can be examined together with other economic indicators to produce a better understanding of the current and future course of the economy. The movement of the index over time can be compared with other economic measures to understand the relationship of changes in transportation output to changes in Gross Domestic Product (GDP).

### **The freight transportation index** consists of:

For-hire trucking,

Railroad freight services (including rail based intermodal shipments such as containers on flat cars),

Inland waterways transportation,

Pipeline transportation (including principally petroleum and petroleum products and natural gas), and

Air freight.

The index does not include international or coastal waterborne movements, private trucking, courier services, or the US Postal Service.

### **The passenger transportation index** consists of:

Local transit,

Intercity passenger rail, and

Passenger air transportation.

The index does not include intercity bus, sightseeing services, ferry services, taxi service, private automobile usage, or bicycling and other non-motorized transportation.